	Special Master's Construction																																					
rms	Defendants' Evidence	particularly time	consuming.")		Levy Decl. ¶ 33		Pl. Br. 13-14 ("The '035	Patent introduces and	defines the term NLLBP	from the perspective of	a workstation accessing	local storage;	specifically, an NLLBP	is what is used by a	workstation to access	local storage.")		Pl. Br. 14 ("Therefore,	just as the workstation	sends an NLLBP	request to access its	local storage, using a	storage router in the	present invention, the	workstation will	similarly send an	NLLBP request to the	storage router.")	TT T 1.0	111 g. 11. 244:3-14	("Well, sure. It has the	same problem at the	workstation)		Hrg. Tr. 225:5-9.		WITHOUT	MITTION TO THE PART OF THE PAR
nstruction of Disputed Te	Defendants' Proposed Construction																																					
Special Master's Proposed Construction of Disputed Terms	Crossroads' Evidence	involving a translation	from a high level file	system command to a	native low level block	protocol request.")		April 28, 2011 2d Supp.	Decl. of John Levy,	Ph.D., ¶7 (CIFS, NFS	and FTP are network	protocols).		March 7, 2011 Decl. of	Brian Berg, ¶37	(Defendants' expert uses	term "network protocol"	broadly such that it	would include Fibre	Channel).		April 28, 2011 2d Supp.	Decl. of John Levy,	Ph.D., ¶3 (a workstation	gets "access to the local	storage device through	native low level block	protocols").	TI-12 T. 04 100.7 10	111 g 11. at 127.7-13,	March 8, 2011	(Defendants agreed to		involving Etnernet	networks, Ethernet	protocols, 1 CP/1P" from	uren proposed construction) March 7	Commence actions of the commence of the commen
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	Actual Claims Language																																					

	Special Master's Construction																																		-		1.	
erms	Defendants' Evidence	INVOLVING	NETWORK	PROTOCOLS		Intrinsic Evidence		Second Reexam Reply	at 9-10 ("In typical prior	art systemsto	overcome the inability	of a SCSI-to-SCSI	system to provide	remote	storageworkstations	were connected to a	network server using a	distance capable	network transport	medium and a network	protocol such as	Ethernet. A problem	with this prior art	solution was that the	network server creates a	bottleneck which slows	down remote access	because, at least in part,	the computer or	workstation needs to	create something called	a 'network protocol' to	send the data over the	distance-capable	transport medium.")	(citing 1:47-54)	(emphasis added)	
Proposed Construction of Disputed Terms	Defendants' Proposed Construction																																					
Special Master's Proposed Co	Crossroads' Evidence	2011 Supp. Decl. of	_	(Ethernet and TCP/IP	protocols are concerned	only with delivery of	messages).			of John Levy, Ph.D.,	¶36 (NLLBP "used" by	the storage router to	allow access is the	NLLBP sent to it from	the device; this NLLBP	is the NLLBP	appropriate for the	virtual local storage, not	the NLLBP of the	storage device storing	the data).		Dictionary of Computer	and Internet Terms 311	(6 th Ed. 1996), Fore	Decl. ISO Pl.'s Cl.	Const. Br., Ex. S	(defining "native" as "1.	designed for a specific	hardware or software	environment (rather than	for compatibility with	something else)").		Stip. Defs. of Cl. Terms,	Fore Decl. ISO Pl.'s	Post-Hr'g Cl. Const. Br.,	Ev I (nortion pares that
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	Actual Claims Language																																					

	Spec	Special Master's Proposed Co	Proposed Construction of Disputed Terms	erms	
Actual Claims Language	Crossroads' Proposed Construction		Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		"virtual local storage" is		Second Reexam Reply	
		"storage space, in a		at 24 ("one of ordinary	
		storage device that is		skill in the art would	
		remotely connected to		have understood that	
		an initiator device to be		access to remote storage	
		within or locally		via Ethernet required the	
		connected to the		use of a higher level	
		initiator device").		network protocol.")	
		April 28, 2011 2d Supp.		Second Reexam Reply	
		Decl. of John Levy,		at 24 ("Ethernet	
		Ph.D., ¶6 (under		networks required the	
		Defendants'		use of high-level	
		construction, a protocol		protocols to transmit	
		used for communication		information between a	
		over "Fibre Channel		workstation and a	
		based networks" would		network serverThe	
		be a network protocol).		problem with this type	
				of system is exactly the	
				problem that the '035	
<u> </u>				Patent described in the	
				Background of the	
				Invention and was	
				designed to overcome.")	
				Second Reexam Reply	
				at 35 ("the Ethernet	
				based system of Spring	
				relies on higher level	
				protocols to achieve	
				remote storage")	
				Def. Ex. 8, NIIRC	
				("TCP/IP, e.g., used in	
				Ethernet	
				communicationsis not	
				considered to be a	

	Special Master's Construction	
rms	Defendants' Evidence	WITHOUT INVOLVING NETWORK PROTOCOLS Extrinsic Evidence Berg. Decl.¶ 46-48 Berg. App. H at 80-81 INVOLVING FILE SYSTEM COMMANDS Intrinsic Evidence First Reexam Reply at 10 ("the storage router is not required to translate some high level command from the workstation (e.g., a file system command, or function call with arguments) into a low level SCSI command") First Reexam Reply at 11 (stating that the Petal reference uses "file system commands")
Proposed Construction of Disputed Terms	Defendants' Proposed Construction	
Special Master's Proposed C	Crossroads' Evidence	
Spe	Crossroads' Proposed Construction	
	Actual Claims Language	

	Special Master's Construction	
erms	Defendants' Evidence	therefore "does not allow the client (i.e., workstation) to access the storage devices using an NLLBP") WITHOUT INVOLVING TRANSLATION FROM ONE PROTOCOL TO ANOTHER— Intrinsic Evidence First Reexam Reply at 10-11 ("Therefore, Petal does not disclose, teach or suggest a system for 'allowing access using native low level, block protocols as recited' in the claims.") First Reexam Reply at 10 ("there is no translation of the commands from a higher level protocol to a low level protocol. In other words, the storage router is not required to translate some high level command from the workstation (e.g., a file system command, or
Proposed Construction of Disputed Terms	Defendants' Proposed Construction	
Special Master's Proposed C	Crossroads' Evidence	
Spec	Crossroads' Proposed Construction	
	Actual Claims Language	

	Spe	Special Master's Proposed Co	Proposed Construction of Disputed Terms	rms	
Actual Claims Language	Crossroads' Proposed Construction		Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
and a sumervisor unit	Notive low lavel			function call with arguments) into a low level SCSI command." First Reexam Reply at 22 ("Thus, the devices of Claim 1 connected to the first data transport protocol can access the storage devices using commands that do not require translation from a high level protocol to a low-level protocol.") WITHOUT INVOLVING TRANSLATION FROM ONE PROTOCOL TO ANOTHER - Extrinsic Evidence Berg Decl. ¶¶ 30-34	7
and a supervisor unit coupled to the first controller, the second controller and the buffer, the supervisor unit operable to map between devices connected to the first transport medium and the storage devices, to implement access controls for storage	Native low level block protocol ("NLLBP"): Native: "Designed for use with a specific type of storage device." Block Protocol: "A set of rules or standards for exchanging information	Native low level block protocol: Intrinsic: Abstract, Col. 1, Il. 44, Col. 2, Il. 13-14, 26; Col. 3, Il. 17, 22-23, 53, 63; Col. 4, Il. 4-5, 25; Col. 5, I. 3; Claim 1, Col. 5, Il. 29-30; Col. 10, Il. 48-	native low level block protocol: Does not need to be separately construed; alternatively, may be construed with reference to individual terms as follows: Native: Designed for use with a	Extrinsic Evidence Berg. Decl. ¶ 41-43 NATIVE — Intrinsic Evidence 1.43-46 ("These protocols map directly to the mechanisms used by the storage device.")	"A set of rules or standards that enable computers to exchange information and do not involve the overhead of high level protocols and file systems typically required by network servers."

Defendants' Proposed Evidence Specific type of storage device. Low-level protocol: A set of rules or standards that enable computers to exchange in involving network in servers. Ethernet computers to exchange in involving network in servers, Ethernet computers to exchange in involving network in protocols such as TCP/IP, Ethernet protocols, network pr		Spec	Special Master's Proposed Construction of Disputed Terms	nstruction of Disputed Te	rms	
with a block-oriented storage device." Low Level Protocol: A set of rules or standards that enable computers to exchange information without with storage devices via information without with storage devices via system protocols." Block Protocol: A set of rules or right stranged devices via standards that enable (network server shown computers to exchange in Fig. 1; Col. 3, II. 20-23 standards that enable (network server shown computers to exchange in Fig. 1 communicates information without with storage devices via server). Block Protocols. Native Low Level System protocols." Block Protocol: Standards designed for server. Storage couter." of the invention is contrasted standards designed for that allowed access to standards device without translating high level involving high level file system commands storage device without translating high level involving high level file system commands access from devices). Claim 1, Col. 9, II. 13- Sol (storage router "allowels access from devices). Claim 1, Col. 9, II. 13- Claim 1	ll Claims Iguage	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction		Special Master's Construction
Evotocol: Protocol: Rig. 1; Col. 3, 11. 20-23 standards that enable computers to exchange information without involving high level file system protocols." A set of rules or standards that enable computers to exchange in Fig. 1 communicates information without with storage devices via involving network involving high level file SCSI commands are server). Block Protocol: "A set of rules or standards that enable computers to exchange in Fig. 1 communicates information without with storage devices via server). Block Protocol: "A set of rules or standards that enable computers to exchange in Fig. 1, Col. 1, 11. 49-54; protocols are by a network protocols." Block Protocol: "A set of rules or standards are enable control involving information is contrasted server. Evel protocols or file system commands of standards device without translating high level file file system commands storage device of the "metwork ever" and sending the NLLBP to the physical storage devices connected to the first transport medium to the storage devices	the storage nd to process	with a block-oriented storage device."	49 (specification consistently uses	specific type of storage device.	1:52-54 ("that the	
E Low-Level Protocol: standards that enable (network server shown computers to exchange in Fig. 1; Col. 3, II. 20-23 at and ards that enable (network server shown computers to exchange in Fig. 1 communicates) information without with storage devices via system protocols." MLLBPs even though servers, Ethernet network server). Block Protocol: "A set of rules or system protocols." A set of rules or standards that enable computers to exchange in Fig. 1, Col. 1, II. 49-54; protocols or file system commands are exchanging information with a block-oriented involving high level file system commands storage devices by and sending the NLLBP and sending the NLLBP and sending the NLLBP to the first transport medium to the storage devices. Claim 1, Col. 9, II. 13-3 (and devices). Claim 1, Col. 9, II. 13-3 (and devices). Claim 1, Col. 9, II. 13-3 (and devices). A set of rules or standards designed for with a block-oriented involving high level file system commands storage device without translating high level file devices). Claim 1, Col. 9, II. 13-3 (and devices). Claim 1, Col. 9, II. 13-3 (and devices). Claim 1, Col. 9, II. 13-3 (and devices). Claim 1, Col. 9, II. 13-4 (and devices)	e buffer to		"NLLBP" as a single		server must translate	
#A set of rules or standards that enable standards that enable standards that enable computers to exchange in Fig. 1; Col. 3, II. 20-23 standards that enable computers to exchange in Fig. 1 communicates information without information without information with storage devices via system protocols." Biock Protocol: "A set of rules or standards that enable standards that enable involving high level file system protocols." Block Protocol: "A set of rules or server, Ethernet involving high level file system commands are exchanging information with a block-oriented involving high level file system protocols." Claim 1, Col. 9, II. 13-3 (from storage device without translating light level file system commands system protocols." Claim 1, Col. 9, II. 13-3 (fromation with a block-oriented involving high level file system commands devices connected to the first transport medium to the storage devices	between the	Low Level	term).	Low-level protocol:	into low level requests	
standards that enable (network server shown computers to exchange information without with storage devices via system protocols." NLLBPs even though servers, Ethernet he SCSI commands are servers, Ethernet he SCSI commands are networks, or highersent by a network server, Ethernet he SCSI commands are server). Block Protocol: "Storage router" of the "storage device by that a block-oriented involving high level file system commands storage device without involving high level file system commands storage device without translating high level file system commands storage device without and sending the NLLBP and sending the NLLBP and sending the NLLBP and sending the NLLBP to the physical storage devices of first transport medium to the storage devices on the first transport medium to the storage device on the first transport medium to the storage device on the first transport medium to the storage device on the first transport medium to the protocol on the first transport medium to the protocol on the first transport medium t	roller and the	Protocol:		A set of rules or	to the storage device")	
standards that enable in Fig. 1 communicates information without with storage devices via information without with storage devices via information without sorage devices via information without with storage devices via information without with storage devices via information without with storage devices via information without with a block-oriented standards designed for the system protocols." Claim 1, Col. 9, II. 13-3 (the storage device of the involving high level file system commands storage device without involving high level file system commands of the "metwork protocols." Claim 1, Col. 9, II. 13-3 (the storage device of the "metwork protocols") Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices or medium to the storage devices without first transport medium to the storage devices or medium to the storage devices without first transport medium to the storage devices without medium to the storage device without medium to the storage devices without with a block-oriented without with a block-oriented with a block-oriented without with a block or storage device wi	ontroller to	"A set of rules or	Fig. 1; Col. 3, Il. 20-23	standards that enable	0.00.01 (2.2.1)	
information without with storage devices via involving high level file system protocols." NLLBPs even though servers, Ethernet the SCSI commands are servers, Ethernet system protocols." Or, in the alternative: server). Block Protocol: "storage router" of the involving high level file system commands are servers. Ethernet protocols such as server). Block Protocol: "storage router" of the involving high level file system commands are storage device without translating high level file system commands are system protocols." Claim 1, Col. 9, II. 13-3 (the involving high level file for the physical storage devices from devices). Claim 1, Col. 9, II. 13-30 (storage router "allowls] access from devices connected to the first transport medium to the storage devices	cess from	standards that enable committees to exchange	in Fig. 1 communicates	computers to exchange information without	2:29-31 (each "workstation access[es]	
involving high level file System protocols." Or, in the alternative: Or, in the alternative: Or, in the alternative: Or, in the alternative: Native Low Level Block Protocol: Col. 3, II. 17-23 (the protocols or file system protocols. Storage router" of the invontion is contrasted with a block-oriented standards designed for that allowed access to standards device without translating high level file system commands system protocols." Claim 1, Col. 9, II. 13- Or in the alternative: Fig. 1, Col. 1, II. 49-54; protocols or file system protocols. with a "network server" astandards for standards designed for that allowed access to standards for storage devices by with a block-oriented involving high level file system commands system protocols." Claim 1, Col. 9, II. 13- Or the physical storage device device device of the "network sorrage devices" Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices Claim 1, Col. 9, II. 13- Or the physical storage devices	ransport	information without	with storage devices via	involving network	its virtual local storage	
system protocols." the SCSI commands are sent by a network sent by a network Or, in the alternative: Or, in the alternative: Native Low Level Block Protocol: "A set of rules or standards designed for with a "network server" storage device without translating high level file system commands system protocols." Claim 1, Col. 9, II. 13-3 Claim 1, Col. 9, II. 13-3 Or, in the alternative: Protocols such as TCP/IP, Ethernet protocols. Protocols or file system protocols. In the alternation protocols. A set of rules or that allowed access to standards for storage devices by with a block-oriented involving high level file system commands storage device of the "network protocols." Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices	to the storage	involving high level file	NLLBPs even though	servers, Ethernet	as if it work [sic: were]	
Sent by a network server). Native Low Level Native Low Level Block Protocol: "A set of rules or exchanging information with a block-oriented involving high level file system protocols." System protocols." Claim 1, Col. 1, 1l. 49-54; protocols or file system protocols. "storage router" of the involving high level file system commands system protocols." Claim 1, Col. 9, 1l. 13-30 (storage router "allow[s] access from devices from devices from equevices from the first transport medium to the storage devices.	using native	system protocols."	the SCSI commands are	networks, or higher-	locally connected")	
Or, in the alternative: server). Native Low Level Block Protocol: Block Protocol: "Storage router" of the invention is contrasted standards designed for exchanging information with a block-oriented system protocols." System protocols." Claim 1, Col. 9, II. 149-54; protocols, network network server "allow server" "A set of rules or with a "network server" attandards for storage device without translating high level involving high level file system commands system protocols." Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices	l, block		sent by a network	level protocols such as		
Fig. 1, Col. 1, Il. 49-54; protocols, network Fig. 1, Col. 1, Il. 49-54; protocols or file system Col. 3, Il. 17-23 (the invention is contrasted with a "network server" as tandards for storage devices by exchanging information translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, Il. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices	S.	Or, in the alternative:	server).	TCP/IP, Ethernet	NATIVE -	
Fig. 1, Col. 1, II. 49-54; protocols or file system Col. 3, II. 17-23 (the "storage router" of the invention is contrasted with a "network server" that allowed access to storage devices by translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices				protocols, network	Extrinsic Evidence	
Col. 3, II. 17-23 (the storage router" of the invention is contrasted with a "network server" standards for storage devices by translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		Native Low Level	Fig. 1, Col. 1, 11. 49-54;	protocols or file system		
"storage router" of the invention is contrasted with a "network server" A set of rules or that allowed access to storage devices by exchanging information translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		Block Protocol:	Col. 3, 11. 17-23 (the	protocols.	Berg. Decl. ¶ 44-45	
invention is contrasted with a "network server" A set of rules or that allowed access to storage devices by exchanging information translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices			"storage router" of the		· · · · · · · · · · · · · · · · · · ·	
with a "network server" that allowed access to standards for storage devices by translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		"A set of rules or	invention is contrasted	Block protocol:	Def. Ex. 17, Webster's	
that allowed access to standards for storage devices by translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		standards designed for	with a "network server"	A set of rules or	New World Dictionary	
storage devices by exchanging information translating high level file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13-30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		exchanging information	that allowed access to	standards for	of Computer Terms (5th	
file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13- 30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		with a block-oriented	storage devices by	exchanging information	ed. 1994) (a native	
file system commands of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, II. 13- 30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		storage device without	translating high level	with a block-oriented	compiler is "a compiler	
of the "network protocol" into low level requests (i.e., NLLBP) and sending the NLLBP to the physical storage devices). Claim 1, Col. 9, Il. 13- 30 (storage router "allow[s] access from devices connected to the first transport medium to the storage devices		involving high level file	file system commands	storage device	that produces code	
		system protocols."	of the "network		usable only for a	
			protocol" into low level		particular computer;"	
			requests (i.e., NLLBP)		native language is "a	
			and sending the NLLBP		computer language	
			to the physical storage		peculiar to the machines	
			devices).		of one manufacturer");	
			Claim 1 Col 9 11 13.		Dof Ev 21	
			20 (atomic of the 13-		DCI: LA: 21,	
			30 (storage router		Dictionary.com	
			anow[s] access non		Ondoridged (Dased Oil	
			devices connected to the		Kandom House	
			to the stanged derived		Dictionary 2010),	
					accessed from	

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rms	Defendants' Evidence	ce.com on 2/12/2011.	Def. Ex. 22, <i>IEEE</i>	Standard Glossary of	Computer Networking	Terminology (1995) at	32. (a protocol converter	is "a dedicated device	that translates the	protocol native to an	end-user device into a	different protocol").		Levy Decl. ¶ 36 (alleged	invention "presents	virtual local storage to	the workstation that	looks just like local	storage to the	workstation")		Levy Supp. Decl. ¶ 23	"Consequently, the host	system will access the	virtual local storage	using the NLLBP	appropriate for storage	that the host system sees	as its local storage.")		LOW LEVEL	PROTOCOL:	See "Allowing	accessusing native	low level block	protocol", supra.
nstruction of Disputed Te	Defendants' Proposed Construction																																			
Special Master's Proposed Construction of Disputed Terms	Crossroads' Evidence	block protocols" (emphasis added); the	storage router,	specifically, the	supervisor unit within	the storage router,	"uses" the NLLBP to	permit or enable access).		Abstract; Col. 2, II. 12-	15, 17-20, 24-27; Col. 3,	II. 59-63; Col. 3, II. 51-	53; Col. 4, 11. 2-6; Col.	5, II. 1-5; Col. 9, II. 28-	31; Col. 10, 11. 9-11	(specification discloses	that NLLBPs are used	by, and at, the storage	router to allow access).		Col. 6, Il. 33-41, 46-56	(specification describes	two embodiments	wherein "devices"	making the storage	access request are	servers).		April 6, 2005 Reply to	Fore Decl. ISO	Crossroads' Post-Hr'g	Cl. Const. Br., Ex. E;	July 22, 2005 Reply to	Office Action at 24-27,	Fore Decl. ISO	Crossroads' Post-Hr'g
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	Special Master's Construction	
rms	Defendants' Evidence	
Special Master's Proposed Construction of Disputed Terms	Defendants' Proposed Construction	
ial Master's Proposed Co	Crossroads' Evidence	high level file system command into low level commands in order to send the NLLBP to the storage device, not the use of Ethernet networks, Ethernet or TCP/IP). Col. 2, II. 17-20; Col. 5, II. 19-22, 50-57, 60-63; Col. 6, II. 32-37; '147 Patent, Claim 1, Col. 9, II. 28-32 (disclosing and claiming embodiments using Fibre Channel; the inclusion of "without involving network protocols" according to Defendants' expert would prohibit the use of Fibre Channel despite the fact that these are express embodiments). Col. 5, II. 53-56 (Fibre Channel is a protocol used for communications over "Fibre Channel based networks"). Col. 1, II. 42-53; Col. 3, II. 16-24; Col. 5, II. 1-5 (specification notes that NLLBPs do not involve overhead of high level
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Actual Claims Language	Construction	Crossroads Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction	-
		network protocols or file systems).				
	-	Col. 6, II. 31-41, 46-56			,	
		(specification has two				-
		distinct embodiments in which the "devices"		-		
		making storage requests				
		are servers).				
		Extrinsic:				
	2.7	March 7, 2011 Supp.				
		Decl. of John Levy,				
	-	Ph.D., ¶2; March 7,				
		2011 Decl. of Brian				
		Berg 42 (experts agree				
		term of art).				
	-	Hr'g Tr. at 121:8-16,				
		March 8, 2011 (parties				
		agree that "NLLBP"				
		should be construed as a				
		single term, consistent with use in				
		specification)				
-	-	Morch 7 2011 Cum				
		Decl. of John Levy.				
		Ph.D., ¶13 (Ethernet and				
		TCP/IP protocols are				
		concerned only with				
		delivery of messages).				
		March 7, 2011 Decl. of				
		Brian Berg ¶48 (a SCSI	-			

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Actual Claims Language	Crossroads' Proposed Construction		Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		command would be a low level command).			
	,	March 7, 2011 Decl. of Brian Berg, ¶37 (states			
		that "low level" means "without involving			
		file system protocols.").			
		April 28, 2011 2d Supp.			
		Decl. of John Levy, Ph.D., ¶4 (person of			
		ordinary skill would			
		understand that the specification discloses a			
		server that sends			
		requests for storage			
		router using NLLBP).			
		Hr'a Tr 76.4_10_87.20			
		23, March 8, 2011 (in			
		hypothetical network of Graphic 2 of			
		Defendants' Markman			
		Decl. ISO Pl's Post-			
		Hr'g Cl. Const. Br., Ex.			
		high level file systems			
		commands to network			
		server); Id. at 200:2-5, 201:22-24, 202:24-			
		203:3 (Defendants			
-		"device" is a "computer"			
		tilat is both leading of			

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rms	Defendants' Evidence															
Proposed Construction of Disputed Terms	Defendants' Proposed Construction															
o Co		t t	s	,	iill A-	Ex.		Dot	ii ,	of. an	<u>ة</u> ر	EX.		<u> </u>	l'1d	Į.
	Crossroads' Evidence	writing data from a storage device" and sending NLLBPs and the only "device" that does so in Graphic 2,	shown in Crossroads' Post-Hearing Brief is the "network server")	Crossroads' Concise Statement of	Intringement, Dot Hill Litigation (Case No. A- 03-CV-754 SS), Fore	Decl. ISO Pl.'s Post- Hr'g Cl. Const. Br., Ex	H; April 28, 2011 2d Supp. Decl. of John Levy Ph D. ¶5		designed to be used in hypothetical system	shown in Graphic 2 of Defendants' Markman	Demonstratives (Fore Decl. ISO Pl's Post-	ni g Ci. Colist. Bi., Ex. J)).	Hr'g Tr. at 81:12-15, March 8, 2011 (all			
Special Master's Propose	Crossroads' Proposed Crossroads' Construction Evidence	writing data from a storage device" and sending NLLBPs and the only "device" the does so in Graphic 2	shown in Crossroads Post-Hearing Brief i the "network server"	Crossroads' Concise Statement of	Litigation (Case No 03-CV-754 SS), For	Decl. ISO Pl.'s Post. Hr'g Cl. Const. Br.,	H; April 28, 2011 20 Supp. Decl. of John Levy Ph D. ¶5	(accused devices in Hill litigation were	designed to be used hypothetical system	shown in Graphic 2 Defendants' Markm	Decl. ISO Pl's Post-	J)).	Hr'g Tr. at 81:12-15, March 8, 2011 (all			systems with a servine interposed between

	Spec	Special Master's Proposed Co	Proposed Construction of Disputed Terms	rms	
Actual Claims Language	Crossroads' Proposed Construction		Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		workstations and			
		88:2-89:16; 93:4-7;	1		
		100:16-24 (Defendants			
		agree that the			
	-	"translation"			
-		patentees during			
		reexamination was from			
		high level file system			
		commands into NLLBP			
		16 (parties agree that			
	-	"allowing access			
		using NLLBP" occurs		· .	
		from a high level file			
		system command to a			
		NLLBP request); Id. at			
		7 (Defendants concede			
		that the "network			
		protocols" described in	-		
		the Oeda, Petal and			
		Spring references included file system			
		commands thus,			
		including "without			
		nivolving network protocols" is			
		superfluous to "without			
	-	from a high level file			
		system command to a			
		protocol request.")			

	Special Master's Construction	
ms	Defendants' Evidence	
Proposed Construction of Disputed Terms	Defendants' Proposed Construction	
q Co		of of tses ol." Sol ion ion ion ion in its ols is see in its ols in in its old in in its old in it
	Crossroads' Evidence	April 28, 2011 2d Supp. Decl. of John Levy, Ph.D., ¶7 (CIFS, NFS and FTP are network protocols). March 7, 2011 Decl. of Brian Berg, ¶37 (Defendants' expert uses term "network protocol" broadly such that it would include Fibre Channel). April 28, 2011 2d Supp. Decl. of John Levy, Ph.D., ¶6 (under Defendants' construction, a protocol used for communication over "Fibre Channel based networks" would be a network protocol). February 22, 2011 Decl. of John Levy, Ph.D., ¶¶ 31, 33 (NLLBPs do not have the overhead associated with the use of higher level protocols to access storage); Id. ¶¶ 34 (specification describes network servers communicating with storage using NLLBPs).
Special Master's Propose	Crossroads' Proposed Crossroads' Construction	April 28, 2011 2d Sul Decl. of John Levy, Ph.D., ¶7 (CIFS, NFS and FTP are network protocols). March 7, 2011 Decl. Brian Berg, ¶37 (Defendants' expert uterm "network protocobroadly such that it would include Fibre Channel). April 28, 2011 2d Sul Decl. of John Levy, Ph.D., ¶6 (under Defendants' construction, a protocoused for communicatiover "Fibre Channel based networks" would based network protocoused for John Levy, Ph.D., 31, 33 (NLLBPs do nhave the overhead associated with the us of higher level protoc to access storage); ¼3, 34 (specification describes network servers communicatii with storage using NLLBPs).

	Spec	Special Master's Proposed Co	Proposed Construction of Disputed Terms	erms	
Actual Claims	Crossroads' Proposed	Crossroads'	Defendants' Proposed	Defendants' Evidence	Special Master's
Claim 2:					
The storage router of	Device:	Device:	Device:	See claim 1, supra. 4	No Construction Necessary
supervisor unit	"Computing device that	Intrinsic:	Computer.		
of subsets of storage	issues storage access requests."	Claim 1, Col. 9, II. 27-			
space to associated		30 ("devices" refers to			-
devices connected to the	-	the devices that make			
Irrst transport medium,		requests and are allowed access to storage			
only accessible by the		devices).			
associated device					
connected to the first		Col. 1, II. 36-37; Col. 2,			
transport medium.		II. 4-5; Col. 4, II. 55-56;			
		col. 8, II. 63-68 (the snecification describes			
		the devices that make			
		requests to access the			
		storage devices as			
		computing actices).			
		Col. 1, 11. 57-60 ("from			
		the perspective of a			
		workstation, or other			
		seeking to access such			-
		server data, the access is			
		much slower than access			
		to data on a local			
		storage device ").			7.
		Claim 3, Col. 9, 11. 37-			
		39 (principles of claim			
		differentiation require			
		"devices," as a group,			

⁴ For this and other claim terms appearing in multiple claims, the parties have not identified any evidentiary issues that are different between different claims. Therefore, for the sake of brevity and clarity, Defendants avoid repetition of issues addressed in detail previously in this chart.

	Spec	Special Master's Proposed Co	Proposed Construction of Disputed Terms	rms	
Actual Claims Language	Crossroads' Proposed Construction	Crossroads' Evidence	Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		must necessarily be broader than			
		"workstations").			
		Col. 6, Il. 31-41, 46-56			
		(the specification			
		type of computing			
		device that can make storage access requests).			
		Abstract, Col. 1, II. 21-24, II. 36-37, II. 53-56;			
		v vo			
		3-6, 41-43; Col. 4, 11.			
		11. 45-55; Col. 8. 11. 65-			
		68 ("devices" is used			
-		broadly to refer to			
		various computing			
		workstations,			
		input/output devices,			
		"initiator" and "target"			
		devices).			
		April 6, 2005 Reply to			
		Office Action at 8, 10,			
		12, 22, Fore Decl. ISO			
		Cl Const. Ex. E: Inly			
		22, 2005 Reply to			
		Office Action at 7-15,			
		21-23, 27-29, 32, 33,			
		35-37, 39, Fore Decl.			
	-	Hr'ρ Cl Const Br Fx			
		a Cir Compa Diri Turi			

	Special Master's Construction																							
ns	Defendants' Evidence																							
Proposed Construction of Disputed Terms	Defendants' Proposed Construction																							
Special Master's Proposed Cor	Crossroads' Evidence	F ("Device" is used over ninety times in the reexamination	prosecution history to	capable of making	requests for storage).	Extrinsic:	April 28, 2011 2d Supp.	Ph.D., ¶ 4 (one of	ordinary skill would understand that in the	embodiments at Col. 6,	server that sends	requests for storage access to the storage	router using NLLBP).	The McGraw-Hill	Illustrated Dictionary of	(4 th ed. 1995), Fore	Decl. ISO Crossroads'	Cl. Const. Br., Ex. W (defining device as "a	mechanical, electrical or	electromechanical	appliance. Commonly	used in reference to	printers, CRTS and disk	drives").
Spec	Crossroads' Proposed Construction																							
																								\neg

	Spe	Special Master's Proposed Co	Proposed Construction of Disputed Terms	rms	
Actual Claims Language	Crossroads' Proposed Construction		Defendants' Proposed Construction	Defendants' Evidence	Special Master's Construction
		Hr's Tr at 202:24-			,
		203:3, 205:4-7, Mar. 8,			
		2011 (Defendants'			
		counsel agreeing that			
		the defining			
		characteristic of a			
		device is that it is the			
		requests).			
		May 11, 2011 3d Supp.			
		Ph.D., ¶3 (a "network			
		server" is a server that			
		can request access to			
		storage).			
		Microsoft Committee			
		Dictionary 430 (3d Ed.			
		1997), May 11, 2011 3d		-	
	-	Supp. Decl. of John			
		Levy, Fn.D., Ex. A			
		"(1) on a local area			
		network (LAN), a			
		computer running			
		that controls access to			
		resources, such as			
		printers and disk drives,			
		and provides resources			
		to computers			
		workstations on the			
		HOLWOIN J.			